

1 CLAIMS

2 What is claimed is:

3 Claim 1. A latch and lock kit for holding an upwardly  
4 acting cargo container door in a closed position with respect  
5 to a door frame, comprising:

6 a latch means having a catch means and a handle  
7 constructed and arranged for mounting to a lower portion of  
8 said upward acting door for rotational movement about an axis  
9 between latched and unlatched positions, said handle means  
10 having a distal end portion opening radially relative to said  
11 axis, said distal end portion having a depending tab secured  
12 thereto, said depending tab having an aperture therethrough,  
13 said aperture adapted to cooperate with a sliding bolt member;

14 a sliding bolt lock constructed and arranged for  
15 attachment to said upwardly acting door adjacent to said distal  
16 end portion of said handle means when said handle means is in  
17 said latched position, said sliding bolt lock having a body  
18 portion and a sliding bolt member, said sliding bolt member  
19 movable between a locked position and an unlocked position,  
20 whereby said sliding bolt member may be moved between said  
21 locked and said unlocked positions to engage and disengage  
22 respectively said aperture in said depending tab when said  
23 handle means is in said latched position for positively  
24 preventing movement or allowing movement respectively of said  
25 handle means;

26 wherein pivoting said latch means about said axis to a

1 latched position prevents upward movement of said door with  
2 respect to said door frame and pivoting said latch means about  
3 said axis to a unlatched position allows upward movement of  
4 said door with respect to said door frame.

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6 Claim 2. The latch and lock kit as disclosed in claim 1  
7 wherein said body portion of said sliding bolt lock is  
8 constructed of metal.

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10 Claim 3. The latch and lock kit as disclosed in claim 1  
11 wherein said body portion of said sliding bolt lock includes a  
12 plurality of L-shaped tabs secured thereto, said L-shaped tabs  
13 constructed and arranged for attachment to said lower portion  
14 of said upwardly acting door.

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16 Claim 4. The latch and lock kit as described in claim 3  
17 wherein each of said plurality of said L-shaped tabs include a  
18 vertical portion and a horizontal portion, wherein said  
19 vertical portion is secured to said body portion of said  
20 sliding bolt lock and wherein said horizontal portion includes  
21 at least one aperture therethrough for attachment to said lower  
22 portion of said upwardly acting door.

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24 Claim 5. The latch and lock kit as described in claim 1  
25 including a lock casing for releasably securing said sliding  
26 bolt lock adjacent to said end portion of said handle means

1 said lock casing including an inner surface and an outer  
2 surface, said inner surface having a conjugate shape to said  
3 body portion of said sliding bolt lock, said outer surface  
4 including a plurality of L-shaped tabs secured thereto, said L-  
5 shaped tabs constructed and arranged for attachment to said  
6 lower portion of said upwardly acting door.

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8 Claim 6. The latch and lock kit as described in claim 5  
9 wherein each of said plurality of said L-shaped tabs include a  
10 vertical portion and a horizontal portion, wherein said  
11 vertical portion is secured to said outer surface of said  
12 casing and wherein said horizontal portion includes at least  
13 one aperture therethrough.

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15 Claim 7. The latch and lock kit as described in claim 5  
16 wherein said lock casing is constructed of steel.

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18 Claim 8. The latch and lock kit as described in claim 5  
19 wherein said lock casing is constructed of hardened steel.

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21 Claim 9. The latch and lock structure as described in  
22 claim 5 wherein said lock casing is constructed of armor plated  
23 steel.

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25 Claim 10. The latch and lock kit as described in claim 1

1 including a backing plate, said backing plate secured to a rear  
2 surface adjacent a lower portion of said upward acting door,  
3 said backing plate including a axle secured thereto, said axle  
4 defining an axis, said axis having a hub rotatably supported  
5 thereabout, said latch means mounted to rotate about said axis,  
6 said sliding bolt lock secured to said backing plate adjacent  
7 to said distal end portion of said handle means when said  
8 handle means is in said latched position;

9 wherein said sliding bolt engages said latch means to  
10 prevent rotational movement of said latch means about said axis  
11 in a locked position and wherein said sliding bolt disengages  
12 said latch means in an unlocked position to allowed said latch  
13 means to pivot about said axis.

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15 Claim 11. The latch and lock kit as described in claim 10  
16 wherein said backing plate is constructed of steel.

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18 Claim 12. The latch and lock kit as described in claim 10  
19 wherein said backing plate is constructed of aluminum.

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21 Claim 13. The latch and lock kit as described in claim 1  
22 including a catch pin mounted to said door frame and engageable  
23 by said latch means for positively preventing upward movement  
24 of said door when said latch means is in said latched position.

1           Claim 14. The latch and lock kit as described in claim 10  
2 wherein said catch pin is recessed into said door frame.

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4           Claim 15. The latch and lock kit as described in claim 1  
5 wherein said sliding bolt lock includes a multi-element pin  
6 assembly.

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8           Claim 16. The latch and lock kit as described in claim 1  
9 wherein said sliding bolt lock includes at least one electric  
10 circuit, wherein said at least one electric circuit is  
11 constructed and arranged to cooperate with at least one  
12 electric circuit in a lock key.

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14           Claim 17. The latch and lock kit as described in claim 1  
15 wherein said sliding bolt lock includes an ownership  
16 identification card, wherein said ownership identification card  
17 includes digital information required to make a key for said  
18 sliding bolt lock.

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20           Claim 18. The latch and lock kit as described in claim 1  
21 wherein said sliding bolt lock includes an ownership  
22 identification card, wherein said ownership identification card  
23 includes digital information required to open said sliding bolt  
24 lock.

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1           Claim 19. A method of modifying an upward acting cargo  
2 container latch mechanism to include a sliding bolt lock,  
3 wherein said cargo container includes a bed portion, a left  
4 side wall, a right side wall, a front wall, a roof panel and an  
5 upward acting door, said upward acting door comprised of a  
6 plurality of horizontally hinged sections which are disposed in  
7 a substantially vertical plane, when said door is closed, and  
8 in a substantially horizontal plane near said roof panel when  
9 said door is open, said upward acting cargo container door  
10 including a latch means pivotally mounted upon a lower portion  
11 of said upwardly acting door, said latch means including a  
12 backing plate secured to a rear surface adjacent a lower  
13 portion of said door, said backing plate including a axle  
14 secured thereto, a hub rotatably supported on said axle, an  
15 elongated handle and a arcuate catch secured to said hub, said  
16 handle extending substantially radially from said hub, said  
17 handle having a distal end, said distal end of said handle  
18 including an integrally formed depending tab having an aperture  
19 drilled generally parallel to said handle, said arcuate catch  
20 extending from said hub and adapted to cooperate with a catch  
21 pin mounted to said bed portion of said cargo container, said  
22 latch means rotatable between a latched position and an  
23 unlatched position, said latch means including a latched  
24 keeper, wherein said latched keeper includes an integral hub  
25 pivotally mounted on pivot pin secured to said backing plate,

1 said latched keeper having a downwardly and frontwardly  
2 projecting flange integrally formed on said hub, said flange  
3 having an opening which aligns with said aperture in said  
4 depending tab of said handle when the latch means is in said  
5 latched position, for receiving a conventional U-shaped shackle  
6 lock, wherein said steps for modifying said latch means to  
7 include a sliding bolt lock comprise:

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9 removing said latched keeper from said backing plate;

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11 positioning a sliding bolt lock adjacent to said distal  
12 end of said handle when said handle is in a latched position so  
13 that a sliding bolt portion of said sliding bolt lock engages  
14 said handle to prevent rotation thereof in a locked position;

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16 securing said sliding bolt lock to said lower portion of  
17 said door.

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19 Claim 20. The method of modifying an upward acting cargo  
20 container latch mechanism to include a sliding bolt lock of  
21 claim 19, wherein said sliding bolt lock includes a body  
22 portion and a sliding bolt member, said sliding bolt member  
23 movable between a locked position and an unlocked position,  
24 whereby said sliding bolt member may be moved between said  
25 locked and said unlocked positions to engage and disengage

1     respectively said aperture in said depending tab when said  
2     handle means is in said latched position for positively  
3     preventing movement or allowing movement respectively of said  
4     handle.

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6           Claim 21. The method of modifying an upward acting cargo  
7     container latch mechanism to include a sliding bolt lock of  
8     claim 19, wherein said body portion of said sliding bolt lock  
9     includes a plurality of L-shaped tabs secured thereto, said L-  
10    shaped tabs constructed and arranged for attachment to said  
11    lower portion of said upwardly acting door, wherein each of  
12    said plurality of said L-shaped tabs include a vertical portion  
13    and a horizontal portion, wherein said vertical portion is  
14    secured to said body portion of said sliding bolt lock and  
15    wherein said horizontal portion includes at least one aperture  
16    therethrough for attachment to said lower portion of said  
17    upwardly acting door.

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19           Claim 22. The method of modifying an upward acting cargo  
20    container latch mechanism to include a sliding bolt lock of  
21    claim 19, wherein said sliding bolt lock includes a lock casing  
22    for releasably securing said sliding bolt lock adjacent to said  
23    end portion of said handle said lock casing including an inner  
24    surface and an outer surface, said inner surface having a  
25    conjugate shape to said body portion of said sliding bolt lock,



1 said outer surface including a plurality of L-shaped tabs  
2 secured thereto, wherein each of said plurality of said L-  
3 shaped tabs include a vertical portion and a horizontal  
4 portion, wherein said vertical portion is secured to said outer  
5 surface of said casing and wherein said horizontal portion  
6 includes at least one aperture therethrough.

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8 Claim 23. The method of modifying an upward acting cargo  
9 container latch mechanism to include a sliding bolt lock of  
10 claim 22, wherein said lock casing and said L-shaped tabs are  
11 constructed of metal.